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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,095	10/02/2000	Hyun-doo Shin	Q56074	4859

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EXAMINER	
CHANG, JON CARLTON	

ART UNIT	PAPER NUMBER
2623	9

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/676,095	SHIN ET AL.	
	Examiner	Art Unit	
	Jon Chang	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4-7 and 11-42* is/are allowed.

6)☒ Claim(s) *1-3,8 and 10* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Applicants' Amendment and Arguments

1. The amendment filed January 26, 2004, has been entered and made of record.

The Examiner wishes to first point out a typographical error in the first Office Action. On page 6, at item 10, the statement of the rejection should have read, "...the combination of the article, 'Texture Features for Browsing and Retrieval of Image Data' by Manjunath et al. (hereinafter "Manjunath") and Ravizza." This is clear from the supporting text of the rejection.

In response to the amendment to the specification, the objection to the disclosure is withdrawn.

In response to the amendment to the claims, the objection to the claims due to informalities is withdrawn.

On page 22, Applicants provide brief descriptions of what each of Augusteijn Ravizza, Puzicha and Manjunath relates to. Applicants provide no specific arguments against the rejections 1-3 and 8, nor do they specifically point out how the language of the claims patentably distinguishes them from the references. Applicants do not even provide a general allegation that the claims define a patentable invention. The rejections of claim 1-3 and 8 are therefore maintained.

The bulk of Applicants' arguments on pages 22-23 are directed toward the rejections of claim 10. With regard to the rejection of claim 10 as being unpatentable over Puzicha and Ravizza, Applicants ague that there is no explanation of why one of ordinary skill in the art would have been motivated to modify the specific teachings of Puzicha by the specific teachings of Ravizza. The Examiner disagrees. The cited

advantage regarding the accurate identification of textures is specifically discussed in Ravizza at page 504, left column, section 4.2. This alone would provide a suggestion, or motivation to combine the references as established by the courts (see *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)). Also note that Puzicha requires the use of texture descriptors (page 267, right column, first full paragraph; section 3), while Ravizza provides for a specific type of texture descriptor. The Examiner also notes that Applicants do not deny that Ravizza's computation of texture is inherently simple.

With regard to the rejection of claim 10 as being unpatentable over Manjunath and Ravizza, the same arguments just presented above are applicable. Therefore, the rejections of claim 10 are maintained.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by the article, "A Performance Evaluation of Texture Measures for Image Classification and Segmentation Using the Cascade-Correlation Architecture" by Augusteijn et al. (hereinafter "Augusteijn").

Regarding claim 1, Augusteijn discloses a digital image texture analyzing method comprising the step of obtaining a texture descriptor including a mean of pixel values of an original image as a texture feature (page 4301, second paragraph under "Pixel Patterns and Gray Level Averages").

4. Claims 1-3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by the article, "Myocardial Tissue Characterization by Means of Nuclear Magnetic Resonance Imaging" by Ravizzaa et al. (hereinafter "Ravizza").

Regarding claim 1, Ravizz discloses a digital image texture analyzing method comprising the step of obtaining a texture descriptor including a mean of pixel values of an original image as a texture feature (page 502, left column, second full paragraph).

As to claim 2, Ravizza discloses the the method according to claim 1, wherein the texture feature further includes a variance of the pixel values of the original image (page 502, left column, second full paragraph).

Regarding claim 3, the remarks provided for claim 2 are applicable.

In regards to claim 8, the remarks provided for claims 1 and 2 are applicable. Ravizza teaches an apparatus for performing the method (page 501, right column, section 2.1 Equipment).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Augusteijn.

Regarding claim 2, Augusteijn does not explicitly disclose that the texture feature further includes a variance of the pixel values of the original image. However, the article does teach utilizing the standard deviation of pixel values as a texture feature (page 4301, second paragraph under "Pixel Patterns and Gray Level Averages"). The variation is considered obvious over standard deviation taught by Augusteijn given that they are directly related.

With regard to claim 3, the remarks provided for claim 2 are applicable.

As to claim 8, the remarks provided for claims 1 and 2 are applicable. Augusteijn does not disclose an apparatus and associated units. However, the method taught by

Augusteijn is intended to be performed on some sort of apparatus. Implementation of the method on such an apparatus would have been obvious and well within the skill level of the ordinary artisan.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the article, "Non-parametric Similarity Measures for Unsupervised Texture Segmentation and Image Retrieval" by Puzicha et al. (hereinafter "Puzicha") and Ravizza.

Regarding claim 10, Puzicha discloses a digital image searching method comprising searching for an image having a similar texture descriptor to a query image using a texture descriptor (page 267, right column, first full paragraph; section 3). Puzicha does not disclose that the texture descriptor has a mean and a variance of the pixel values of an original image as texture features. However, this is well known as evidenced by Ravizza (page 502, left column, second full paragraph). It would have been obvious to employ Ravizza's technique in Puzicha's method because it is accurate in identifying textures (Ravizza, page 504, left column, section 4.2), and due to its inherent simple computation.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the article, "Texture Features for Browsing and Retrieval of Image Data" by Manjunath et al. (hereinafter "Manjunath").

Regarding claim 10, Majunath discloses a digital image searching method comprising searching for an image having a similar texture descriptor to a query image using a texture descriptor (section 1, Introduction, second paragraph; section 2.4.1). Majunath does not disclose that the texture descriptor has a mean and a variance of the pixel values of an original image as texture features. However, this is well known as evidenced by Ravizza (page 502, left column, second full paragraph). It would have been obvious to employ Ravizza's technique in Majunath's method because it is accurate in identifying textures (Ravizza, page 504, left column, section 4.2), and due to its inherent simple computation.

Allowable Subject Matter

10. Claims 4-7, 11-42 are allowed.

11. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
April 21, 2004